RNC group of NSD at LBNL is interested in joining the sPHENIX collaboration

Grazyna Odyniec

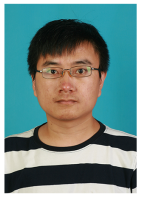
Lawrence Berkeley National Laboratory

sPHENIX Experiment Collaboration meeting, Atlanta, December, 2016

RNC Members

Top Row From Left: A. Schmah, H. Qiu, L. Ma, S. Mizuno, X. Luo, M. Simko, L. Greiner, A. Collu, G. Contin, J. Thaeder, F. Wang, M. Mustafa, L. Bonifacio, H. Matis, N. Xu
Second Row From Left: A. Poskanzer, G. Xie, J. Szornel, G. Odyniec, J. Zhang, J. Porter, X. Dong
Bottom Row From Left: J. Xu, S. Klein, P. Jacobs, M. Lomnitz

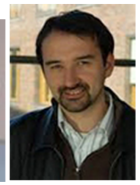

F. Bock


X. Chen


H. Ge


B. Jacak


C. Loizides


M. Ploskon


H.G. Ritter


Y. Shi


E. Sichtermann


J. Thomas


H. Wieman

Who we are, the RNC group:

Senior Staff Scientists: 6
Staff Scientist: 6
Short Term (PD, project scientists): 7+2
Students: 8 + sizable number of “external” students

Our physics interest:

In addition to sPHENIX physics program:

- open HF: beauty
- higher moments of net protons
- e^+e^- physics (1 GeV $< m_{e+e-} <$ 3 GeV)

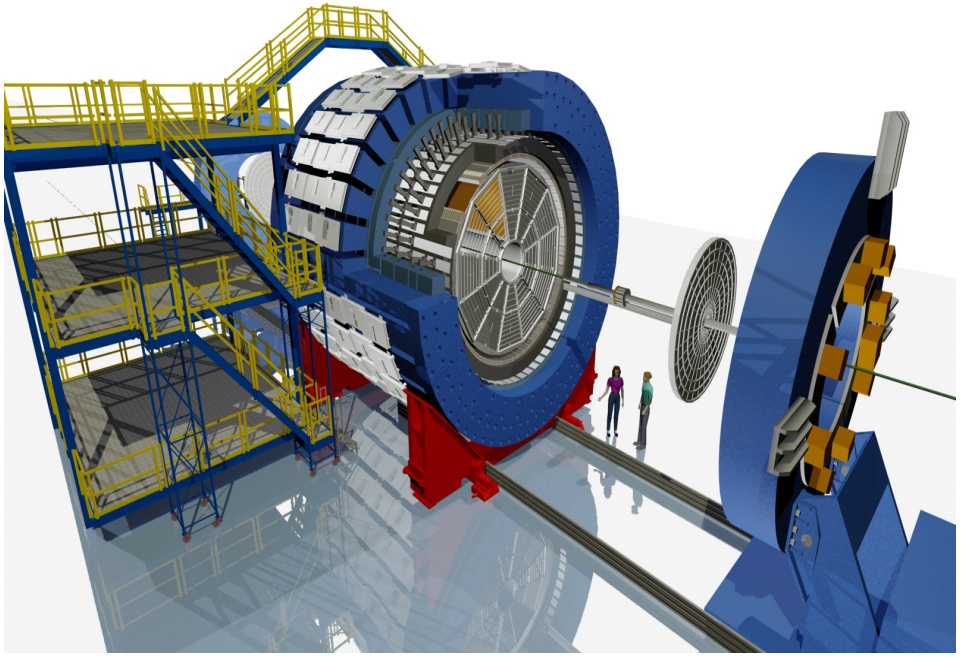
Our experience and expertise:

As a National Laboratory group we have a unique opportunity to develop the cutting edge instrumentation (access to facilities available in National Lab, engineers, shops, …)

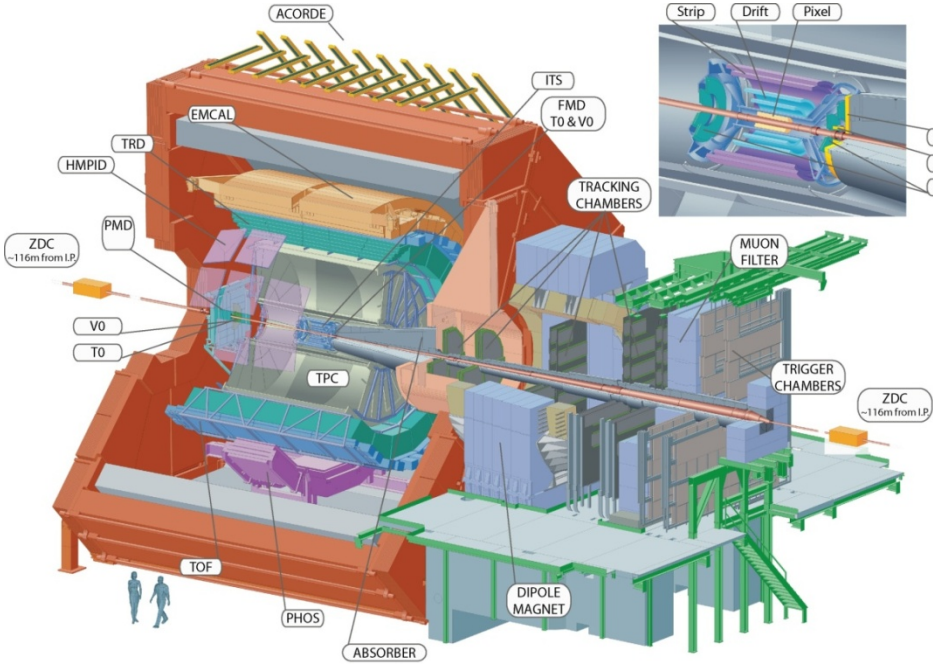
What we can bring to the collaboration :

We would like to contribute to MAPS vertex detector

Presently we are involved in two experiments



STAR@RHIC



ALICE@LHC

In both we were/are working on MAPS vertex detectors

Our possible contributions:

- Contribution to MAPS vertex tracker project
  - possible use of LBNL unique shops and facilities
  - exact tasks need discussion

    -> Workshop Santa Fe 5-7 January

    and in LBNL January 24-25, 2017
- Participation in simulation and software efforts
  - particularly those related to HF physics (work started)
- ….

Our involvement will grow gradually. Presently it is ~ 1.5 FTE.

It will depend on resources. We aim to hire detector expert in FY19.

- Back up slides

Scope of RNC involvement in ITS upgrade

- Assembly and testing of Middle layer staves (layers 3,4) from components (modules, cold plates, space frames) fabricated by other institutions
- The design of the powering system for all outer layers (3-6) including power bus, power boards and control system
- Sensor and component testing at the BASE facility
- The outer layers carbon fiber support cylinder and possibly the inner layers support structure as well

- Collaboration on RDO system design and fabrication of RDO for the middle layers (UTA)